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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,869	10/12/2006	Robert Schroeck	WAS0795PUSA	5862

22045 7590 12/16/2010

BROOKS KUSHMAN P.C.
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

EXAMINER	
JANCA, ANDREW JOSEPH	
ART UNIT	PAPER NUMBER
1774	

MAIL DATE	DELIVERY MODE
12/16/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,869	SCHROECK ET AL.	
	Examiner	Art Unit	
	Andrew Janca	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/7/10 and 10/5/10 have been fully considered but they are not persuasive. Although formally moot in view of the new grounds of rejection, relevant portions will be addressed below. As Applicants' amendments have made the prior art of the first Office action more relevant than that of the second, the majority of the below addresses Applicants' remarks of 4/7/10.

2. Regarding Applicants' Remarks 10/5/10 (p 6 para 3), Joffre teaches establishing an upper set point of most preferably 40°C for the silicone latex in the first mixer (the "second mixer" of para 0037): as the temperature of the emulsion in the mixer is the same as the temperature at least as the emulsion exits the mixer, a set point for the emulsion in the mixer is necessarily a set point for the emulsion as it exits the mixer. As Applicants note (p 6 para 0004) Joffre does not teach regulating the pressure of the emulsion. However, Joffre teaches all the steps of the claimed invention with the exception of the details of "measuring the temperatures and pressures of the emulsion" at the exit of the mixers taught by Joffre, and "adjusting process parameters to maintain the temperatures and pressures of the emulsion...at their respective set points." Claim 1 does not recite any particular set point: *any* set point, so long as it has been selected by the mental step of the practitioner, would include such a mixing process within the scope of the claim.

3. Measuring the temperature and pressure of a chemical or industrial process taking place in a closed system, and regulating them by "adjusting process parameters", are steps so *prima facie* obvious to any experimenter or workman carrying out the process that unless some critical temperature or pressure (as a single point or a range) is essential to the working of a process, it is customarily not mentioned in a compact report. Any experimenter or workman constantly takes note of temperature and pressure while conducting a high-energy mixing process in a closed system such as that of Joffre and the claimed invention, and adjusts process parameters as necessary to maintain them at some desired level, since being completely careless of these parameters which are critical to any high-energy process in a closed system would require that the observer not take note when something goes wrong. Closed systems can burst, or blow up. A workman who does not notice that the apparatus pumping and mixing fluids at high energy has become unusually hot, or is leaking fluid at a junction point due to overpressure, would either bring on an accident, be fired as incompetent, or both.

4. Applicants discuss how their invention does indeed involve special or critical temperatures and pressures (Remarks 4/7 pp 6-7, Remarks 10/5 p 6) by reciting examples from their disclosure. However, no such critical or special temperatures or pressures are recited in the invention claimed by claim 1: any random temperature or pressure will do. And what are the critical ranges of the claimed invention as recited by the dependent claims? Claim 13, the only claim giving a numerical value for pressure, limits the range critical for the performance of the claimed invention to be "1 to 10 bar":

that is, atmospheric pressure, or some pressure moderately greater than that which might be expected in any closed system. Claim 14, the only claim giving a numerical range for temperature, limits the range critical for the performance of the claimed invention to be "5°C to 100°C", that is, just above the freezing point of water to the boiling point of water, a range far broader than what would be expected from a lab or workspace kept by a thermostat to standard room temperature. It has been held that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). However, it does not take even routine experimentation to run a mixing process at ordinary room temperature and pressure: to come to the invention as recited in claims 13 and 14, the experimenter, given the process of Joffre, need do nothing at all—except notice that there is nothing particularly unusual about the ambient temperature and pressure, and check in on the equipment from time to time to make sure it is not about to explode.

5. However, it is noted that Joffre disclose a preferred upper temperature for preparing emulsions in his apparatus within the claimed range, 40°C (para 3009); and Hosokawa disclose a preferred set pressure for preparing emulsions within the claimed range, ordinary atmospheric pressure (7:49-55), which they disclose as preferred so as not to overload their apparatus, so that they can use cheaper equipment (1:35-53). As to the criticality of pressure (Remarks p 8 first para), given that the very starting point for Hosokawa's invention (1:35-53) is the requirement for it to work at ordinary atmospheric pressure (unlike Applicants' claimed invention which can work just fine at any pressure

within a very broad range of ambient pressure upwards)—in particular, so as to be able to use equipment not capable of operating at higher pressures (1:35-53), it is clear that pressure is not just a critical, but a substantially more critical parameter to Hosokawa's invention than in Applicants' own claimed invention.

6. Regarding Applicants' further remarks regarding Hosokawa (Remarks 4/7 pp 4-5), Hosokawa disclose that two of the disclosed high-shear mixers 9-10 may be used in series (Example 2, 7:29-30); so like the independent high-shear mixers of Joffre, they need not be locked together on a single axis and forced to operate other than independently of one another. Although Applicants note that the pressures of Hosokawa "appear to be only autogenous pressures" (p 5 para 1), as noted above such pressures are also recited as being within the preferred range of their claimed invention.

7. Applicants also argue that regulating the shearing speed of high-shear rotor-stator mixers (such as those of Joffre and Hosokawa) would (unlike its effect upon temperature) have no direct effect upon the pressure and so would be an ineffective means of regulating the pressure (Remarks 4/7 p 5 para 1, p 7 para 1). This is contradicted by Applicants' own disclosure, for if this assertion were true the invention of Applicants' claims 6-8 would be non-functional.

8. Regarding dependent claims 7-8 and 11 (Remarks 10/5 pp 7-8), DesMarais teach that adjusting the rotational speed of a rotating high-shear mixer can have a substantial effect on pressure downstream of it, where it may be measured (17:24-32); it is manipulation of the dynamic rotor-stator mixer and not the static mixer which accomplishes this change (16:62-7:35).

9. Regarding dependent claims 9-11 (Remarks 4/7 pp 9-10), although Schirosi is not relied upon below, it is noted that what Schirosi disclose is the technique of adjusting the temperature of a continuous process by adjusting the temperatures of the raw materials: why they choose to do so is irrelevant. However, what Schirosi disclose, or rather evidence, is also a matter of common sense: most adults perform this action in the bath every day, when they adjust the temperature of a process liquid (a shower stream or a filling bathtub) by adjusting the temperature of its primary raw ingredient, the water coming out of the tap.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 5-6, 9-10, and 12-21 are rejected under 35 USC 103(a) as unpatentable over EP 0915122 A1 by Joffre et al in view of US 5,563,189 to Hosokawa et al.

13. With regard to claim 5, Joffre teach a process for the continuous preparation of aqueous emulsions comprising organosilicon compound(s) (A), emulsifier(s) (B) and water (C) (para 0001), comprising a) feeding at least a portion of the (A), (B), and (C) components continuously to a first rotating high-shear mixer (the "second mixer" of para 0036: the "first mixer" of Joffre is to form a premix, para 0035) in which a highly viscous silicone emulsion is formed; b) feeding the highly viscous silicone emulsion from a) to a second rotating high-shear mixer (the optional but preferred "third mixer" of para 0038), and optionally admixing further components (A), (B), and (C); c) establishing a set point for temperature for emulsion exiting the first rotating high shear mixer (para 0037), measuring the temperatures of the emulsion exiting the second high speed mixer (para 0042), and adjusting process parameters to maintain the temperature of the emulsion exiting the first high speed mixer at its respective set point (paras 0036-0037). Joffre do not explicitly teach measuring the temperature for emulsion exiting the first rotating high shear mixer. However, as Joffre teach that temperature is an important process parameter, it would have been obvious to one of ordinary skill to have measured the temperature, the motivation being to ensure that the temperature remains within the desired range. It has been held that a person of ordinary skill in the art is also a person of ordinary creativity, not an automaton. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1397 (2007). Joffre teach that the second mixer may be similar to the first mixer (both dynamic mixers being of the same kind and operated

preferably from "0.1 to 16 m/s", paras 0037 and 0038 respectively), but do not explicitly teach setting a set point for temperature exiting the second mixer or adjusting process parameters to maintain the temperature of the emulsion exiting the second high speed mixer at its respective set point. However, it would have been obvious to have duplicated the first mixer to provide the second, with its means and use of setting and regulating temperature. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Joffre do not explicitly teach establishing a set point, measuring, and regulating pressure at the exit of the first and second mixers. However, Hosokawa teach a process for the continuous preparation of aqueous emulsions comprising organosilicon compound(s) (A), emulsifier(s) (B) and water (C) (2:28-31), comprising a) feeding at least a portion of the (A), (B), and (C) components continuously to a first rotating high-shear mixer 9-10 in which a highly viscous silicone emulsion is formed; b) feeding the highly viscous silicone emulsion from a) to a second rotating high-shear mixer 9-10 (Example 2, 7:29-30), and optionally admixing further components (A), (B), and (C); c) establishing a set point for pressure for emulsion exiting the first rotating high shear mixer and the second rotating shear mixer (7:42-54), measuring pressure of the emulsion exiting the first high shear mixer and the second high speed mixer (7:42-54), and adjusting process parameters to maintain the pressures of the emulsion exiting the first and second high speed mixers at their respective set points (5:12-17; 7:42-54; figure 1). It would have been obvious to one of ordinary skill to have established set points, measured, and regulated pressures at the mixers of Joffre, as do Hosokawa: the

motivation would have been that keeping the pressures at ambient atmospheric pressure reduces power consumption (5:14-17) and wear on the equipment, lowering expenses (1:39-42).

14. The additional elements of claim 6 are obvious over Hosokawa. Hosokawa teach that the pressure measured after the second high-shear mixer is one of the process parameters to be monitored (7:50-54), that the intent of the method is to maintain the pressures at all points below a desired minimum range (5:12-17), and that the pressure in the apparatus may be regulated and adjusted (5:14-18): given a measurement of a parameter at some point and the desire to adjust it, an obvious way of adjusting the parameter at that point is to regulate it at that point.

15. The additional elements of claims 9-10, including that the temperature is regulated by adjusting the temperature of the raw materials and the rotating speed of the high-shear mixers, are obvious over Joffre (paras 0037, 0046). Joffre explicitly teach that a preferred manner for controlling temperature is by adjusting the rotational speed of a high-shear mixer (para 0037); and adjusting the temperature of a mixture by adjusting the temperature of the raw materials would be obvious to one of ordinary skill, as adjusting the temperature of the raw materials is a common method of adjusting the temperature of a mixture, practiced daily by anyone who bathes or washes dishes by hand.

16. The additional elements of claim 12, including that the organosilicon compound (A) is liquid at 25.degree. C. and has a viscosity of from 0.5 to 500,000 mPa.s., are taught by Joffre (para 0010).

17. The additional elements of claim 13, including that the pressure following the first and the second high-shear mixers should be each independently within the range of 1 to 10 bar, are obvious over Hosokawa, who teach that a pressure at a set point of 1 bar (0 bar over atmospheric pressure) is preferred and prevailing throughout the apparatus (1:35-42, 7:50-54), the reason being that the selected equipment may be incapable of operating at other pressures (1:35-42).

18. The additional elements of claims 14-15, including that the temperature of emulsions exiting the first and second high-shear mixers are each independently within the range of 5℃ to 100℃, are obvious over Joffre. Joffre teaches that the temperature of the emulsion exiting the second mixer may be measured at 40 C (para 0042), and further teaches that the temperature of the emulsion in the second mixer should be no more than 60 or most preferably 40 C (para 0039). It would have been obvious to one of ordinary skill to ensure that all the components entering the second mixer, including the silicone-in-water emulsion premix exiting the first mixer, be no more than 40-60 C: the motivation would have been to make the temperature of the mix in the second mixer easier to control.

19. The additional elements of claim 16, including that at least one additional high shear mixer follows said first and second high shear mixers, are obvious over Joffre and Hosokawa. It has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced: see *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

20. The additional elements of claim 17, including that wherein at least one of further components A), B), and C) may be fed into said second rotating high-shear mixer, are taught by Joffre (para 0036).

21. The additional elements of claim 18, including that the rotational speeds of the first rotating high-shear mixer and the second rotating high-shear mixer are independently adjustable, are taught by Joffre (para 0042).

22. The additional elements of claim 19, including that said first and second rotating high-shear mixers 9-10, 9-10 are independently selected from the group consisting of rotor-stator mixers, high speed stirrers/dissolvers, and colloid mills, are taught by Hosokawa (7:29-30; figure 1).

23. The additional elements of claims 20-21, including that at least one or both of said first or second rotating high-shear mixers are rotor-stator mixers, are taught by Hosokawa (7:29-30; figure 1).

24. Claims 7-8 and 11 are rejected under 35 USC 103(a) as unpatentable over EP 0915122 A1 by Joffre et al in view of US 5,563,189 to Hosokawa et al as applied to claims 5 and 6 above, and further in view of US 5,250,576 to DesMarais et al.

25. With regard to claims 7-8, Hosokawa teach that pressure is a critical process parameter desirable of regulation in the preparation of organosilicon oil-in-water emulsions, and Joffre teach that regulating the speed of the high shear mixer is a means of adjusting the temperature of the emulsion (para 0037), but neither teach adjusting the pressure by regulating the speed of the high speed mixer. However, DesMarais teach a process for the continuous preparation of aqueous emulsions

comprising organic compound(s) (A), emulsifier(s) (B) (6:8) and water (C), comprising a) feeding at least a portion of the (A), (B), and (C) components continuously to a rotating high-shear mixer in which a highly viscous oil-in-water emulsion is formed (9:3ff); b) feeding the highly viscous oil-in-water emulsion from a) to a second high-shear mixer (11:55ff), and optionally admixing further components (A), (B), and (C); and c) establishing a set point for temperature (10:35-46) for emulsion exiting one or both of the high shear mixers, measuring the pressure of the emulsion exiting the high shear mixers, and adjusting process parameters to maintain the pressure of the emulsion downstream and having exited the first mixer at its respective set point (17:10-35); and further teach that the pressure measured after a rotating high shear mixer may be adjusted by regulating the rotational speed of the rotating high speed mixer (17:24-35). Joffre, Hosokawa, and DesMarais are analogous arts, being from the same field of endeavor, the creation of oil-in-water emulsions. It would have been obvious for one of ordinary skill to have regulated the measured pressures in the system of Joffre and Hosokawa by regulating the speed of the rotating high shear mixer, as do DesMarais: the motivation would have been the steady change of pressure it allows (17:29-35).

26. The additional elements of claim 11, including that the temperature of emulsions exiting the first and second high-shear mixers are each independently within the range of 5℃ to 100℃, are obvious over Joffre. Joffre teaches that the temperature of the emulsion exiting the second mixer may be measured at 40 C (para 0042), and further teaches that the temperature of the emulsion in the second mixer should be no more than 60 or most preferably 40 C (para 0039). It would have been obvious to one of

ordinary skill to ensure that all the components entering the second mixer, including the silicone-in-water emulsion premix exiting the first mixer, be no more than 40-60 C: the motivation would have been to make the temperature of the mix in the second mixer easier to control.

Conclusion

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Janca whose telephone number is (571) 270-5550. The examiner can normally be reached on M-Th 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJJ

/DAVID L. SORKIN/
Primary Examiner, Art Unit 1774